Formal Institutions and Subjective Well-Being: Revisiting the Cross-Country Evidence

Christian Bjornskov and Justina AV Fischer and Axel Dreher

Aarhus School of Business, Aarhus University, Georg-August University of Goettingen, OECD, Stockholm School of Economics, IZA, CESifo, KOF Swiss Economic Institute (ETH)

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Christian Bjørnskov [a]

Axel Dreher [b]

Justina A.V. Fischer [c]

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Abstract:

A long tradition in economics explores the association between the quality of formal institutions and economic performance. The literature on the relationship between such institutions and happiness is, however, rather limited, and inconclusive. In this paper, we revisit the findings from recent cross-country studies on the institutions-happiness association. Our findings suggest that the conclusions reached by previous studies are qualitatively rather insensitive to the specific measure of 'happiness' used, while the associations between institutions and subjective well-being differ among poor and rich countries. Separating different types of institutional quality, we find that the effect of economic-judicial institutions on happiness seems to dominate those of political institutions when a sufficient number of developing countries are included in the sample, while analyses restricted to middle- and high-income countries show an additional strong support for a beneficial effect of political institutions. Our results bear important implications which we discuss in the concluding section of the paper.

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[a] Department of Economics, Aarhus School of Business, Aarhus University, Hermodsvej 22, DK-8230 Åbyhøj, Denmark; phone: +45 89 48 61 81; e-mail: ChBj@asb.dk.

[b] Georg-August University Goettingen, Platz der Goettinger Sieben 3, 37073 Goettingen, Germany, KOF Swiss Economic Institute, Switzerland, IZA, and CESifo, Germany, E-mail: mail@axel-dreher.de.

[c] OECD, 2 rue André-Pascal, 75775 Paris CEDEX 16, France, and the Stockholm School of Economics, Sweden, e-mail: JAVFischer@gmx.de.

1. Introduction

Since the study of subjective well-being gained wider interest in the early nineties in both academia and among the public, such diverse countries as Australia, France, the United Kingdom, and Bhutan have gradually begun considering the maximization of citizens' 'happiness' as a national goal. Even though the field now known as 'happiness studies' has come a long way since its beginnings in psychology, the advent of serious discussions in mainstream politics about including happiness goals in policy evaluations has made the study of potential happiness policies even more urgent (e.g., Layard, 2006).

One of the main questions in this literature is to what extent national institutions affect people's happiness. Institutions, defined broadly by North (1990) as 'the rules of the game', regulate public and private affairs in all modern societies and could thus be expected to exert an important influence on individual well-being. Modern economics and political science assign 'institutions', both formal and informal, a key role in society, for example by fuelling economic openness, promoting growth, and stabilizing markets and democracy.[1] Indeed, the significance of *informal* institutions such as social trust – unwritten rules, social norms and codes of conduct – is recognized by many studies as a key source of happiness, at least in rich countries (Diener, Diener and Diener, 1995; Uslaner, 2002).

It seems *a priori* reasonable to conjecture that the quality of *formal* institutions of society should also affect the subjective well-being of its citizens. Well-functioning legal systems provide and enforce property rights, insuring citizens against violence,

[1] See Zak and Knack (2001), de Haan, Lundström and Sturm (2006), Aidt and Gassebner (2007), Engerman and Sokoloff (2008), Méon and Sekkat (2008), and Gassebner, Keck and Teh (2009).

theft and economic exploitation, while democratic institutions and political decentralization provide everyone with the means to influence the political process (Frey and Stutzer, 2000a; Bjørnskov, Dreher and Fischer, 2008b). Good institutions may also create additional 'procedural utility', shown to exceed by far the contribution to well-being of the pure allocation effect (Stutzer and Frey, 2003).[2]

Given the importance of formal institutions for everyday life, it is surprising that only few empirical studies address this issue – and those that do come to inconclusive results (cf. Helliwell, 2006; Ovaska and Takashima, 2006; Bjørnskov, Dreher and Fischer, 2008a; Dorn et al., 2007). We ask what the reason for this lack of consensus may be. Previous papers came to different conclusions because of using different measures of happiness, different institutional indicators, different control variables, and different samples. In this paper, we therefore re-investigate the impact of institutional quality on happiness using one common framework. Holding sample size constant, and controlling for a common set of variables, we investigate whether and to what extent several measures of institutional quality affect happiness. Moreover, we ask the question of which type of formal institutional quality matters? We report the results of Principal Components Analysis, derive two main dimensions of institutional quality, and relate them to happiness.

An additional problem with the previous literature is that the effect of institutional quality has been investigated in samples of rich and poor countries pooled together. As we will argue below, the impact of institutions will likely differ among these groups of

[2] Moreover, informal institutions such as social trust – the belief that most people can be trusted to follow common societal norms – as well as other types of social capital can arguably also contribute to creating a safe and fulfilling social environment (cf. Uslaner, 2002; Helliwell, 2006).

countries. As additional contribution to the literature, we therefore investigate the potentially different effects of institutions on happiness for rich countries separately.

To anticipate our results, we find that institutional quality indeed increases happiness. Our results are, however, not completely robust to how aggregate life satisfaction is defined. The analysis points to a differential role of economic-judicial governmental quality as compared to political institutions in the course of overall societal development. These differences might partly explain the contradictory results of previous studies neglecting these differences.

We proceed as follows. The next section presents our indicators of institutional quality and relates them to happiness. Section 3 reports our data and estimation method, while section 4 shows the results. The final section concludes and derives policy implications.

2. Happiness and institutional quality

Studies of happiness and life satisfaction have explored a very large range of potential determinants at the micro, meso and macro level. Quite often, the findings have been contradictory and even when not, the results of the literature can be puzzling in the light of existing theory in economics and political science, and of common sense. The potential influence of formal institutions on average levels of happiness in different countries has been explored in a number of previous studies, and of the myriad of formal institutions that could in principle affect people's well-being, the following have been particularly in the focus of previous research: the presence of democratic institutions and civil liberties, the quality of legal institutions and the rule of law, government effectiveness and economic freedom, alongside with political constraints at

the federal level such as bicameralism, subsidiarity in political decision-making and spending decentralization.

According to Frey and Stutzer (2000a, 934), "extended individual participation possibilities in the form of initiatives and referenda" in Swiss cantons contribute to individual happiness in Switzerland; see also Frey (2008, ch. 14). These results, however, seem not to be statistically robust to controlling for differences in state culture or the data employed for analysis, as shown in Dorn et al. (2008).[3] Similarly, the recent multi-level study in Bjørnskov, Dreher and Fischer (2008a) finds no robust association between the extent of democratic rights and individual life satisfaction in a sample of 66 countries, while Dorn et al. (2007) report a positive association for 26 mostly OECD countries. The differential outcomes of those previous studies might arguably be caused by their focus on different country samples. More specifically, the level of economic development of the countries in those samples might drive the results. We return to this below.

Turning to the effects of institutional quality and the rule of law, the recent cross-country studies by Helliwell (2006), Helliwell and Huang (2008) and Ovaska and Takashima (2006) show rather clear support for positive effects of institutional quality on happiness, while Fischer (2008) finds that a stronger rule of law prevents market competition from increasing the happiness-gap between the rich and the poor. On the other hand, Bjørnskov, Dreher and Fischer (2008a) find almost no association between

[3] Statistical non-significance of a factor does not necessarily imply that it is not relevant to people's well-being. In the case of Swiss cantons, the very high correlation between political institutions and local culture (language majority: German, French, Italian) might prevent statistical identification of separate effects. This problem is less prevalent in cross-national studies with more independent variation of both factors.

institutional quality and individual happiness in a cross-section of about 66'000 individuals from 66 countries. Again, the differences might be driven by either an omitted variable bias, the different choice of sample or neglecting the heterogeneity of effects at the individual level, which may be considered a form of ecological fallacy.

In the related area of political decision-making, the extent of constraints on politics, but also the strength of political veto players may affect people's happiness. A common argument is that most people are status-quo biased, and that the presence of such constraints slows down the political reform process[4] and prevents the 'tyranny of the majority' (Alt and Lowry, 1994; Tsebelis, 1995; König, 2001), thus increasing the well-being of the average risk-averse individual (Bjørnskov, Dreher and Fischer, 2008a). Indeed, the results of Henisz (2000, 2002) indicate that constraints on policy-making are associated with objectively better economic outcomes.

Often, the presence of veto players is directly linked to formal institutions that relate to the organization of government in a (potentially) multi-tier political system, such as decentralized government spending structures, often alongside shared political power at the federal level. A direct beneficial impact of fiscal decentralization (but not of political autonomy) and bicameralism was identified in Bjørnskov, Dreher, and Fischer (2008a, 2008b).

In addition, the aggregate cross-country studies by Helliwell (2006) and Ovaska and Takashima (2006) – one stressing government effectiveness, the other economic freedom – also suggest a clear positive impact of the quality of these two formal

[4] "For the initiator [of a new system] has the enmity of all who would profit by the preservation of the old institution and merely lukewarm defenders in those who would gain by the new ones", Machiavelli, The Prince, 1513, cited in Feinberg (2006).

institutions on well-being. In contrast, the multi-level Extreme Bounds Analysis in Bjørnskov, Dreher and Fischer (2008a) shows very little support for any robust effects, positive or negative, of these two types of formal institutions. Additional cross-country findings in Bjørnskov, Dreher and Fischer (2007) also indicate no impact of government effectiveness per se on average happiness.

All of these studies assume that the effects of institutional quality are homogenous across the sample – mostly developed and developing countries – an assumption that may not hold in reality and could partly be responsible for the confusing findings. Helliwell and Huang (2008) provide a first indication that this may be the case, as they interpret their findings to imply that honest and efficient public service provision increases happiness in relatively poor countries while political and electoral institutions are positively related to happiness in relatively rich countries.

In general, one may argue that, as these studies are mostly based on correlations, causality and causal interpretations may not be valid. In line with Frey and Stutzer (2000a), however, we base causality on the observation that institutions do usually not substantially change over time, and are often the result of long-lasting historical processes. For example, the decentralized structure in Germany and Switzerland resulted from the loose state structure of the early middle ages (with a 'weak' king), while the unitary government structure in France is a heritage of the development of a 'strong-king-center' reflecting an intense control over his noblemen's tributes and tax payments since 1400 (later renewed through Napoleon's government reforms). Likewise, specific, efficient characteristics of British and Scandinavian legal systems can be traced far back in time (Glaeser and Shleifer, 2002; Lookofsky, 2008).

To sum up, the findings of these previous studies are virtually impossible to compare as they vary in (1) their sample sizes, (2) their definitions of happiness measures (aggregate country averages versus aggregated top three categories), and (3) the set of macro-level variables that is controlled for in the empirical models.

In this paper, we try to remedy some of these shortcomings and extend the existing literature by: (1) employing a common framework relying on the same set of observations throughout by using a panel of the widest range of countries and institutional measures possible; (2) analyzing subsamples identifying differential impacts for rich countries only; (3) using two distinct measures of aggregate happiness, one reflecting mean satisfaction in the population, the other relating to the population share of the happiest people according to a 10-point scale; and (4) investigating a wide range of measures of institutional quality that we group along two dimensions, using Principal Components Analysis (PCA).

3. Data and Methodology

3.1. Data

We draw aggregate data from a number of sources. To measure national levels of life satisfaction, we employ two different indicators, based both on the survey question ”All things considered, how satisfied are you with your life as a whole these days?”, which respondents answer on a ten-point scale. The life satisfaction scores employed here are taken from all the five available waves of the World Values Survey (WVS, 2009), a repeated cross-section with a growing number of participating countries.[5] Our first

[5] First wave: 1981-1984, second wave: 1989-1993, third wave: 1994-1999, fourth wave: 1999-2004, fifth wave: 2005.

measure of happiness follows Helliwell (2006) and the approach in the World Database of Happiness in using the average national score on the life satisfaction question. As an alternative, we rely on the World Values Survey coding in using the percentage of the population answering in the top three categories, which arguably makes the measure less sensitive to cultural differences in answering at the extremes of the scale (cf. Bjørnskov, Dreher and Fischer, 2007). While the correlation across the two measures is .95, the country rankings do change slightly between these measures. As discussed in section 2, with our focus on institutional determinants of happiness, both reverse causality and ecological fallacy are not likely to be a problem here. In particular, the exclusion of relevant individual-level factors could severely bias our results if their inclusion resulted in different country rankings. However, to test for the presence of ecological fallacy we calculate the country fixed effects from running a standard individual-level ordered probit regression (cf. Bjørnskov, Dreher and Fischer, 2008a), obtaining a measure of differences in macro happiness not pertaining to individual-level factors. Comparing these country fixed effects estimates with the alternative aggregate happiness measures employed in this study suggests that an ecological fallacy is not likely to be present: their correlations are .99 (for the simple average happiness) and .92 (for the top three coding), respectively.

The average life satisfaction measure is usually viewed as good overall assessment of national happiness, but clearly more sensitive to respondents in either tail of the happiness distribution, namely to very low or high ranges of the life satisfaction score, compared to the top-share. On the other hand, using the share of respondents answering in the top-three categories mitigates some specific cultural differences in response styles that may introduce unnecessary noise when using average happiness (cf. Bjørnskov,

2006). We remain agnostic with respect to which measure is the more precise, including which measure provides a better solution to the potential cardinality problem (see, e.g., Ng, 1997), since two different types of cultural response styles could bias the measures in opposite directions.[6]

To test for the impact of the quality of formal institutions on life satisfaction, we employ a set of alternative governance measures: 1) the 'legal quality' index from the Fraser Institute (Gwartney and Lawson, 2008); 2) the combined Gastil index of civil liberties and political rights from Freedom House (2008); 3) the Polity IV index of democracy from Marshall and Jaggers (2004); 4)-5) Helliwell's (2006) two groups of variables relating to "the *honesty and efficiency of government*" and "the operation of the *democratic process*," which may be viewed as proxy of democratic rights;[7] and 6)-8) three indices from Henisz (2000, 2002), the first measuring the extent of constraints on policy-making, the second measuring the strength of political veto players, and the third capturing the extent of 'law and order'. Except for the Gastil index, higher values

[6] Bjørnskov (2006) argues that the WVS coding is more appropriate if respondents in some countries are averse to answering in the top category. However, if respondents are averse to answering far from the mean, i.e., averse to both 'too' positive and 'too' negative answers, resulting in a mean-preserving cultural spread, the average measure would be more precise. As we have no way of assessing the relative importance of these types of biases, we proceed by tentatively interpreting the measures as if they were precise.

[7] These variables derive from Kaufmann et al. (2008), with the first variable being the average of government effectiveness, regulatory efficiency, rule of law and lack of corruption, and the second variable the average of voice and accountability, and political stability. Helliwell arrives at measures for 1990 and 1981 by extrapolating the Kaufmann data from 1996 (the earliest observation) into the past (personal communication, July 22, 2009). These two highly correlated indices are also used in Helliwell and Huang's (2008) analysis of government quality for happiness.

correspond to improved institutional quality or more binding institutional constraints. The eight institutional measures are summarized in Table 1.

[Insert Table 1 about here]

Two of our legal institutions indices ('legal quality', 'law and order') capture the protection of property rights. While among the political institutional measures the Gastil index measures the protection of political rights *and* civil liberties more broadly – capturing also the freedoms of speech and of association – 'citizens' political rights in a narrow sense are reflected in the Polity IV index. The remaining indices are designed to measure either government effectiveness or the degree of discretion in policy-making. By testing these indicators against each other we hope to be able to evaluate which types of governance are responsible for potential consequences on average national happiness. Descriptive statistics of the institutional variables are shown in Table 2 while sources are given in the Appendix.

[Insert Table 2 about here]

In choosing our control variables, we take the specification in Helliwell (2006) as our starting point and supplement it by additional aggregate variables found to be important determinants of well-being in Bjørnskov, Dreher and Fischer (2007).

The set of control variables includes an indicator of social capital: the average number of membership in nine different types of voluntary organizations, which in the tradition of Putnam (2000) aims to capture social activity and social networks. As

measure of informal societal institutions we also employ social trust – an indicator of honesty and trustworthiness – which is measured by the percentage of respondents answering 'yes' to the question "In general, do you think most people can be trusted?" Since recent studies indicate that the quality of formal institutions is affected by social trust, including this measure of informal institutions is arguably important as we would otherwise risk overestimating the importance of formal institutions (cf. Knack, 2002). Following Helliwell (2006), our baseline specification also includes a measure of how strongly people believe in god (expressed by the national percentage answering 'yes' to the question "Do you believe in a superior being"), which might also be considered as a type of informal institution (cf. North, 1990). We also control for the divorce rate and the official unemployment rate. Divorce rates have been shown to negatively affect happiness (e.g., Helliwell, 2006), and so has the national unemployment rate (e.g., DiTella et al. 2001). As the effect of economic development is highly debated in the happiness literature, we also include the logarithm to GDP per capita throughout (cf. Easterlin, 1995). This gives us a maximum sample of 148 pooled country-year observations from 62 countries potentially observed in either waves, namely in 1981, 1990, 1995, 1999, and 2005, for which we have full data. All countries are listed in Appendix Table A2. Descriptive statistics of the control variables are shown in Table 2 while sources are given in the Appendix.

The baseline model consists of the institutional quality measure, the social capital variable, the two informal institutions measures ('social trust' and 'belief in god'), the divorce and unemployment rates, and a measure of national income. In the course of our analysis, this baseline model is then supplemented by a set of additional variables. First, we include dummies for postcommunist countries, Latin America and Asia, which

previous research shows to be highly significant (Bjørnskov, Dreher and Fischer, 2007, 2008a). Second, we add period fixed effects to the model to take care of joint macro trends over time, such as business cycles, and of the changing country composition of our sample across waves. Third, we augment the model with openness to trade and the investment price level relative to the U.S., both of which are measures of international integration and business prospects; in recent studies, these have been found to be robustly positively associated with happiness (e.g., Bjørnskov, Dreher and Fischer, 2007, 2008a). As well-working institutions may promote trade and growth (prospects) (as, e.g., the institutional reforms in China show), omitting these factors from the model would lead to an overestimation of the pure effect of institutional quality.[8]

3.2. Methodology

In the following, we estimate the influence of the institutional indicators in this unbalanced country-panel dataset as pooled OLS with Beck and Katz's (1995) panel corrected standard errors (PCSE). Assuming that disturbances are heteroscedastic, allowing for panel-specific variances in unbalanced panels corrects for a bias in the standard errors that may otherwise inflate significance levels. In other words, using PCSE generates more conservative estimates. As happiness and institutions change

[8] Bjørnskov, Dreher and Fischer (2008) find additional robust determinants of life satisfaction. However, not all are significant in this sample and others are only available for a small number of observations. We therefore do not include these variables in the full specification, but note that the results reported below remain unchanged if adding the additional variables.

slowly over time, inclusion of country fixed effects is not advisable even though our sample spans up to 25 years.[9]

It may be argued that pooling the data increases the number of observations artificially. Furthermore, the unbalanced structure of the data gives some countries greater weight in the estimates than others. However, the main results remain when we weigh observations giving each country equal weight. They also remain when we use the 1999-cross-section only.

Finally, to test whether the impact of institutions on happiness differs among poor and rich countries, we also use a reduced sample of rich country observations with an average GDP per capita above 10,000 purchasing-power parity adjusted US dollars; this sub-sample includes 96 country-year observations from 31 countries. We chose a threshold level of 10,000 USD as it is approximately the level at which most studies find average income to cease being associated with subjective well-being, excluding roughly one third of all observations and countries (Schyns, 1998; Dolan, Peasgood and White, 2008).[10] All results are reported for both happiness measures using the full sample and the reduced sample of rich countries.

[9] In an additional set of results, we allow for an estimated first-order autoregressive disturbance, which equally corrects otherwise biased standard errors. Given that institutions change slowly over time, even with a time gap of 5 years or more across waves the assumption of first-order autocorrelation is justified. We do not report these estimates in the following as all results are robust to allowing for autocorrelation; however, these results are available on request.

[10] When splitting the sample at what may seem a somewhat arbitrary level of USD 10,000, it should be noted that all results remain qualitatively unchanged when we apply other cut-offs of, e.g., USD 9,000 or 11,000. As such, the subsample results in the following do not depend on the specific cut-off chosen here.

4. Results

As a first simple way of illustrating the potential effects of institutional quality on life satisfaction, as well as demonstrating the difficulty in separating institutional measures, Table 3 reports the simple and partial correlations (controlling for GDP) between the institutional variables as well as their correlations with the two measures of happiness. First of all, the table illustrates the difficulty in separating different institutional characteristics, as most indices are highly related. The relative exceptions are the Polity IV index and the two political constraints indicators that are more moderately correlated with the remaining institutional indices. However, it is worth noting that a relatively large share of rich countries scores a perfect 10 on the Polity IV index, which is therefore effectively right-censored.[11] Second, the partial correlations also show that controlling for joint variation due to GDP per capita (which is highly correlated with institutional quality) reduces some of the correlations among the institutional measures and thus makes it potentially easier to separate the effects of single institutions on happiness. In other words, part of the identification problem seems to lie in economic development confounding relations between institutional indices.

[Insert Table 3 about here]

The remainder of this section is structured as follows. First, we replicate the results in Helliwell (2006) for our two measures of happiness – based on constant samples of

[11] It is also well known that countries tend to fare better on the Polity IV index of democracy than on the alternative Gastil index of political rights and civil liberties or Henisz's (2000) measures. As explained in the previous section, the reason is that the latter two indices apply a broader concept of democracy that also entails civil rights (like, e.g., economic freedom).

countries – thereby testing the robustness of previous results to the choice of dependent variable. We add additional control variables to see whether previous results arise from omitted variables bias. Second, we employ the different indicators of institutional quality introduced above to test which dimension of institutional quality is most robustly linked to happiness. Finally, we report the results of Principal Components Analysis, deriving two main dimensions of institutional quality, and relating them to happiness.

4.1. Are formal institutions associated with happiness?

Column 1 of Table 4 replicates Helliwell's (2006) results using the 'honest and efficient government' indicator and his original specification (thus excluding period and region dummies) with average national happiness as dependent variable, whereas the corresponding column in Table 5 instead reports the results for the share of respondents in the top three categories.

As the estimates in column 1 of Tables 4 and 5 show, in the baseline specification our variable of main interest, government efficiency, increases happiness according to both definitions of national happiness, with a coefficient significant at the one percent level. As regards the control variables, their effects are equally qualitatively identical across the two definitions of well-being. Contrasting Helliwell (2006), however, the effects of social networks ('average memberships') are not robust to using the larger sample. At the one percent level, and in support of Helliwell (2006), we find that social trust, believing in god, and economic development increase average and 'top three' well-being, while divorce and unemployment rates reduce it.

A series of model extensions are reported in columns 2-5 of both tables. Column 2 adds a dummy for postcommunist countries and the regional dummies for Asia and Latin America.[12] Column 3 includes the period dummies, while column 4 adds trade openness and the investment price level that are arguably correlated with efficient government institutions; column 5 excludes poor countries from the regression sample. Again, we hold the samples across Tables 4 and 5 constant so that the observed differences are exclusively due to differences caused by the additional explanatory variables included in the model and as to how we measure happiness.

Across our models and the two happiness measures, some minor differences emerge for the control variables: According to the results for the average coding reported in Table 4, membership in voluntary organizations is significant at the ten percent level in columns 3 and 4, which is not the case for the population share of the happiest (in the rich country samples of columns 5 in Tables 4 and 5, social capital is insignificant for either happiness measure). In contrast, the unemployment rate no longer affects average happiness according to columns 3-5 (possibly indicating a social norm effect; cf. Clark, Knabe and Raetzel, 2008), but still reduces well-being when focusing on the share of happiest in the population.[13] While the effects of the divorce

[12] As the tables show, the introduction of regional dummies substantially improves the statistical fit. With respect to these variables, it is worth mentioning that people in Latin American countries, in particular, are happier than the average. The difference to the rest of the world, all other things held constant, is +0.44 points on the average measure and +5.6 percentage points when using the WVS coding.

[13] We can only speculate on why unemployment becomes insignificant when using the average measure of happiness. However, it seems a priori likely that unemployment mainly moves people out of the bottom of the top categories and into a lower category, thus only affecting the happiness average marginally, but emerging clearly in the alternative measure. We also note that the effects of

rate are robust when using the average coding, the coefficient is not significant in any of the additional regressions when using the top three coding (columns 2-5 of Table 5). Not surprisingly, per capita GDP loses significance when focusing on the more homogenous group of rich countries in column 5 of Table 5 (but not in Table 4).

[Insert Table 4 about here]

[Insert Table 5 about here]

Turning to our variable of interest – the effects of honest and efficient governments – we basically replicate Helliwell's (2006) main findings when keeping to his specification, regardless of how the dependent variable is defined. This holds when adding the postcommunist and regional dummies, and when including the period dummies (columns 2 and 3 of Tables 4 and 5). When using the average coding, the result equally remains when controlling for trade and the investment price level in addition (column 4 of Table 4), which is not the case when employing the population share of the happiest people: in column 4 of Table 5 institutional quality is no longer significant at conventional levels. The decrease in coefficient size of the 'efficient government' estimates in columns 2 and 3 (as compared to column 1) and of column 4 (as compared to column 3) suggests that government efficiency varies systematically

unemployment and membership substantially weakened when adding period fixed effects. As such, due to our data covering more periods, this effect seems to reflect that these factors tend to follow a joint, international business cycle.

across world regions, but rather not over time, and that it is associated with increased trade openness and positive business prospects, as we conjectured.

When focusing on the subsample of rich countries in columns 5 of Tables 4 and 5, however, for both measures of well-being the coefficients are again significant, at least at the ten percent level. Overall, there hence seems to be some support for the importance of institutional quality on happiness, using either measure of population well-being. The results in both tables nevertheless indicate that the simple model of column 1 overestimates the effects of formal institutions. Calculating elasticities, the results show that the beta coefficient is cut in more than half when including the additional relevant control variables, and even fails the ten percent level of significance in the full model of column 4 in Table 5.

Taken all together, quality of both formal and informal institutional quality appears to be conducive to people's life satisfaction in rich countries. However, while the effects of social trust and belief in god are robust to varying model specifications, this is not the case for the effect of 'honest and efficient governments': it is not robust to the choice of happiness measure, particularly when economic covariates are added to the model. Using the average coding, which both includes changes away from misery (the bottom of the happiness distribution) as well as changes towards actual happiness (the top of the distribution), a one-standard deviation shock to formal institutions induces an improvement in happiness of approximately one fourth of a standard deviation while a shock of similar size to trust results in a similar improvement in happiness.

Arguably, a main critique one could direct against the results in Tables 4 and 5 is that, given the rather strong correlations between various measures of governance, they

do not inform about which type of formal institutions matters; one indicator of institutional quality might just proxy for another.

[Insert Table 6 about here]

Table 6 employs the (new) baseline of column 4 in the previous tables (that includes period dummies, regional dummies, and all economic factors) to test the potential importance of the broader number of alternative institutional indicators as used in the previous literature and summarized in Table 1, again focusing on the same set of observations. Specifically, we replace the 'honest and efficient government' indicator by one other institutional index at the time to test which of them is most robustly related to well-being. Again, we also report results for a sample restricted to richer countries.

According to the results, the overall impression is that in the full sample institutional quality is positively correlated with happiness, while political rights and constraints appear to matter more to richer countries. These findings are fairly robust to the type of happiness measure employed.

In detail, legal quality from the Fraser Institute is a significant determinant of happiness for both measures of happiness and across both samples. This is also reflected by the significance of the Gastil index and Helliwell's (2006) democracy index, although their effects are substantially larger for the sample of only rich countries. These measures have in common that they do not only relate to decision-making in political institutions in a narrow sense, but also capture aspects of economic freedom (Gastil), a well-working judiciary (legal quality), and political stability (democratic process) which are all three important to economic investments.

Among the measures that are more narrowly related to the political process only, we use the Polity IV index, which is intended to capture the importance of democratic political institutions as opposed to market and judicial institutions. The result reveals a more mixed picture, as the index is not significant at conventional levels in the full sample when using the average measure, but is substantially stronger in the case of rich countries. Likewise, Henisz's (2000, 2002) two measures of political constraints follow the general structure of the Polity IV index by being significant in the rich subsample but not in the full samples. In the last panel, the evidence for Henisz's law and order index, on the other hand, is rather weak throughout.

Without wanting to overstate the differences, it consequently seems that the quality of formal institutions that relate to free markets and judicial impartiality matter in the full sample and for rich countries likewise, while the effect of indicators that are more restricted to components of political institutions and participation rights tends to matter in the sample of rich countries only, with betas between .2 and .4. Nevertheless, due to the high interrelatedness of these measures, the robustness of any single finding is uncertain.

Table 7 summarizes the results of testing the strength of the institutional indicators against each other. For all eight indices, respectively, one additional index of the seven remaining ones was added at the time to the regressions shown in Table 6. Table 7 then reports the number of instances out of seven in which the index remains significant at conventional levels of significance. As such, the results can indicate the relative strength

of each institutional indicator.[14] For both life satisfaction measures, democratic process quite clearly dominates in the total sample, always being significant at the five percent level at least. However, quite strong results are also obtained for legal quality and the Gastil index. For the rich country sample it is less clear which index dominates as the Political Constraints III measure also remains significant at conventional levels in most cases.

[Insert Table 7 about here]

Overall, in Table 7 the evidence for the effects of formal institutions on happiness remains mixed and rather inconclusive. First, the fairly robust impact of democratic process, legal quality and the Gastil index across the two different definitions of happiness and the two sample sizes is quite striking. On the other hand, for the richer countries the overall picture looks different where both measures of legal quality, the Gastil index of civil liberties, the democratic process measure, and Political Constraints III are reasonably robust.

With respect to the Polity IV index, in particular, it must be stressed that there is rather little variation in these indices at the top of the global income distribution. As such, their profiles tend to follow the pattern of the effects of economic development on happiness. In other words, the specific relation between these indices and GDP per capita implies that they are relatively likely to pick up the non-linear relation between average income and happiness documented in other studies (cf. Schyns, 1998). Seen in

[14] An important caveat of this exercise is that the measures are correlated. As such, a few results in Table 6 may be potentially misleading as variance inflation factors in roughly a quarter of the cases are close to or above 5 and in a limited number of cases above 10.

the light of this feature, the relative strength of the Gastil index may be more remarkable as it measures the status of both economic-judicial and political institutions, resulting in much larger variation compared to the more narrowly defined Polity IV democracy measure.[15]

4.2. Splitting economic-judicial and political institutions using PCA

As the results in Table 7 suggest, it is difficult to separate the effects of different indices of formal institutions on happiness since they are highly correlated – as shown in Table 3 – and strongly related to economic development. In addition to the standard analysis we therefore perform the following simple three-step test: 1) we first follow Bueno de Mesquita et al. (2003) in calculating the residuals of regressing the eight indicators on (log) GDP per capita, thereby taking out most joint variation due to economic development, and leaving only variation that is strictly institutional instead of following from economic capacity (see also Hicken, Satyanath and Sergenti, 2005); 2) we use these residuals as if they were precise measures of institutions in a principal components analysis (Table A3 in the Appendix reports the specifics of this analysis); and 3) we rerun the analyses above using the component solution of the analysis. As such, this procedure has the double advantage that most variation caused by economic development is excluded from the resulting indices, and that these indices are orthogonal by construction. Problems due to joint variation hidden in most indices of

[15] Indeed, splitting the Gastil index in political rights and civil liberties shows that the variation of the full index across the richer countries is driven by civil liberties, mirroring the invariance of the more narrowly defined Polity IV index.

institutional quality that would prevent identification of differential effects of different types of institutions are thus alleviated.

First of all, the principal components analysis supports the existence of two orthogonal components that can be readily interpreted as a political institutions component and a component capturing the quality of economic and judicial institutions (see Table A3), corroborating the differential findings of Table 7; as such, the results are broadly consistent with the similar analysis in Munck and Verkuilen (2002) who find two broadly similar institutional dimensions.

Using these two scores – which we term 'political factor' and 'economic factor' – in place of the primary indices therefore should provide more precise estimates on the importance of the two separate institutional types for happiness compared to the analyses above. As Table 8 quite clearly shows, this actually is the case.

[Insert Table 8 about here]

The results in Table 8 document a positive effect of economic-judicial and political institutions for both measures of life satisfaction, in the full sample and the rich-country subsample alike. However, for either measure of life satisfaction, the political dimension of institutional quality is clearly stronger when excluding relatively poor countries (columns 2 and 4). In other words, our results indicate that whenever countries have reached a certain level of economic development, the development of a democracy may be beneficial for overall national happiness. In contrast, the development of factors such as a fair and efficient legal system affects the concerns of

citizens to an equal extent in both samples.[16] The last section summarizes and discusses the significance of the full set of findings.

5. Conclusions and policy implications

What contributes to happiness, and whether national happiness can be altered has recently become a key topic in the new literature on happiness. However, many empirical findings have been conflicting, not least those pertaining to the potential influence of institutional quality. This paper looks closer into the association between the quality of formal institutions and national happiness, paying specific attention to the differential effects of different types and different indicators of institutional quality. Particularly, we have estimated the potential influence of formal institutions by employing eight different indicators of institutional quality and governance, employing a constant set of countries. In addition, we have taken account of the strong correlation among measures of institutional quality by deriving factor scores which yielded two separate dimensions of good governance – economic-judicial quality and political influence. Finally, we took account of the differential impact of institutional quality on happiness in low as compared to high income countries.

Overall, our results support the existence of a positive and significant effect of institutions on average national happiness. However, the results also illustrate the difficulty in separating different types and dimensions of institutional quality, as well as

[16] It should be stressed that if we re-estimate the specification with only poor countries, political institutions entirely lose significance. On the other hand, the effects of economic-judicial institutions remain strongly significant for the average measure although not for the top three measure. The results pertaining to the political dimension thus reflect strong effects in fairly rich countries and no effects in poor countries.

measuring such factors with precision. The high correlations between institutional indicators make strong specification tests between indicators infeasible, forcing us to employ alternative empirical strategies.

Creating two artificial measures of institutional quality constructed with factor analysis provides some support for the existence of independent effects of overall economic-judicial and political institutions. The economic-judicial type seems to dominate the political institutions type when a sufficient number of developing countries enter the sample, while analyses restricted to middle- and high-income countries show an additional strong support for a beneficial effect of the political institutions type. This finding is in line with Dorn et al. (2007) and Helliwell and Huang (2008), both showing that democracy contributes to happiness in cross-sections of *richer* countries. As such, one could conjecture that the difficulty of obtaining any clear pattern in previous studies may have been because these studies have ignored the specific heterogeneity of the effect by economic development that we find here.

Overall, our findings based on the factor scores indicate a robust and positive association between the quality of formal economic-judicial and political institutions, and national happiness. The size of these effects, measured as the change induced in happiness from a one-standard deviation change in institutional quality, vary between one sixth and one third of a standard deviation, with marginal effects slightly larger for the subsample of richer countries, and are therefore of economic and social significance.

Our results suggest that citizens may derive subjective well-being from having democratic political institutions whenever the bulk of the population has escaped real (absolute) poverty. Yet, before that goal has been reached, only economic-judicial institutions protecting life, ensuring property rights and providing economic

opportunities contribute to happiness, and simultaneously may also fuel economic growth (cf. Knack and Keefer, 1995; Berggren, 2003; Engerman and Sokoloff, 2008). From a methodological point of view, our empirical findings suggest that part of the controversy in the literature may simply stem from the systematic parameter heterogeneity of the institutional estimates that may have biased full-sample estimates towards zero in most large-sample studies.

A final question to be touched upon is whether our findings hold any policy implications. We explicitly do not discuss whether governments *should* attempt to follow such implications – a question which Frey and Stutzer (2000b) address at length – but only *whether* the findings hold potential implications.

First, the results indicate that the strength of legal quality is associated with happiness. One of the potential ways to raise national happiness would thus seem to be to invest in a fair and efficient legal system and to allow for economic opportunities in poor and rich countries alike, as indicated by Ovaska and Takashima (2006). An additional side-benefit of such an approach would also be higher economic growth as suggested by the vast literature on the topic. However, the everlasting problem remains how to encourage/enforce a fair and efficient legal system in which citizens can have confidence.

Second, our findings suggest that democratization would in general be beneficial for national happiness when countries have reached a certain level of economic development at which most basic needs are met for the majority of the population. However, even if economic development and achieving a basic level of quality of life is an explicit aim of international development aid, the results of that literature show that such efforts by befriended governments are at best ineffective (e.g., Knack, 2004). The

democracy literature suggests that when countries approximately reach the cut-off level of 10,000 USD employed here, democratization becomes steadily more likely and more stable with additional growth (cf. Lipset, 1959; Paldam, 2007). Nevertheless, as the previous literature suggests, even though democratic rights therefore in general seem to lead to more happiness in richer countries, there are apparently other ways to increase citizens' well-being.

At the end of the day, we are therefore left with a set of findings that entail rather difficult implications. Fair and efficient judicial systems seem to contribute to both happiness and economic development, but the persistent lack of such characteristics in many third world countries also suggests that institutional quality cannot simply be transplanted or copied from other countries. For middle and high-income countries, the existence of democratic political institutions is also positively associated with happiness. The restriction of the effect of such institutions in richer countries, fortunately, represents only a minor problem, as most studies find that democracy tends to emerge when countries reach a certain level of economic development (e.g., Lipset, 1959; Paldam, 2007).

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Table 1. Institutional measures

Name	Source	Description
Legal quality	Fraser Institute (Gwartney and Lawson, 2008)	Overall measure of the quality and capacity of the legal system, consisting of indices of judicial independence, impartiality of the courts, protection of intellectual property rights, military interference in law and politics, and integrity of the legal system.
Gastil index	Freedom House (2008)	Index capturing the existence of political rights and civil liberties; lower scores mean better protection of rights and liberties.
Polity IV index	Marshall and Jaggers (2004)	Index intended to capture three essential elements of democracy: 1) institutions and procedures enabling citizens to freely express their preferences for policies and leaders; 2) effective constraints on the exercise of power by the executive; and 3) the civil liberties of citizens to participate in the political process.
Honest and efficient gov.	Helliwell (2006)	Average of rule of law, regulatory quality, bureaucratic efficiency and control of corruption indices from Kaufmann et al. (2003).
Democratic process	Helliwell (2006)	Average of political stability and voice and accountability indices from Kaufmann et al. (2003).
Political constraints III	Henisz (2000, 2002)	Index capturing constraints on the feasibility of policy change, defined as the degree to which a change in the preferences of one or more political actors is permitted to affect government policy. The index effectively measures the number and strength of political veto points.
Political constraints V	Henisz (2000, 2002)	Index employing the same data and logic as Political constraints III, but adding veto points within the judiciary and sub-federal entities.
Law and order	Henisz (2000, 2002)	Law and Order index from Political Risk Services (1996). Higher scores imply "a strong law and order tradition;" lower score mean "a tradition of depending on physical force or illegal means to setting claims."

Table 2. Descriptive statistics

	Mean	Standard deviation	Observations
Life satisfaction, average	6.989	.956	149
Life satisfaction, top three	48.942	17.599	149
Average memberships	.429	.313	149
Social trust	.316	.152	149
Belief in god	.417	.267	149
Divorce rate	1.832	1.112	149
Unemployment rate	8.352	4.669	149
Postcommunist	.228	.421	149
Openness to trade	74.936	47.680	149
Investment price level	83.601	30.392	149
GDP per capita	16,607	8,527	149
			149
Legal quality	7.005	1.571	149
Gastil index	1.985	1.287	149
Polity IV index	7.763	4.041	149
Honest and efficient government	.928	.892	149
Democratic process	.789	.679	149
Political contraints III	.442	.142	149
Political contraints V	.698	.187	149
Law and order	4.752	1.204	149

Table 3. Correlations between life satisfaction and institutional measures

	1	2	3	4	5	6	7	8
1. Honest and efficient	1	.91	.84	-.69	.50	.34	.56	.76
government		(.73)	(.56)	(-.21)	(.01)	(.18)	(.31)	(.49)
2. Democratic process		1	.81	-.76	.58	.40	.58	.73
			(.49)	(-.39)	(.21)	(.30)	(.33)	(.42)
3. Legal quality			1	-.64	.42	.32	.59	.76
				(-.09)	(-.04)	(.16)	(.39)	(.52)
4. Gastil index				1	-.91	-.47	-.57	-.56
					(-.86)	(-.39)	(-.35)	(-.13)
5. Polity IV index					1	.48	.51	.39
						(.39)	(.31)	(.00)
6. Political constraints						1	.53	.27
III							(.46)	(.11)
7. Political constraints V							1	.65
								(.48)
8. Law and order								1
Average	.66	.56	.53	-.48	.35	.21	.29	.39
Top three	.65	.57	.53	-.49	.39	.23	.28	.41

Note: partial correlations in parentheses, controlling for GDP per capita.

Table 4. Basic results, "average" coding

	1	2	3	4	5
Average memberships	.229	.121	.289*	.248*	-.015
	(.155)	(.137)	(.155)	(.145)	(.179)
Social trust	2.056***	1.830***	1.730***	1.850***	1.568***
	(382)	(.346)	(.356)	(.358)	(.382)
Belief in god	1.751***	1.057***	.944***	1.014***	.867***
	(.229)	(.207)	(.243)	(.254)	(.239)
Divorce rate	-.242***	-.154***	-.138***	-.126***	-.114**
	(.049)	(.045)	(.046)	(.042)	(.053)
Unemployment rate	-.022**	-.018**	-.012	-.011	-.004
	(.009)	(.009)	(.009)	(.009)	(.012)
Log GDP per capita	.425***	.359**	.356**	.380**	.482**
	(.137)	(.154)	(.162)	(.153)	(.218)
Postcommunist		-.561***	-.493**	-.502**	-.272
		(.196)	(.205)	(.206)	(.271)
Openness to trade				.002**	.002**
				(.001)	(.001)
Investment price level				.004***	.004*
				(.001)	(.002)
Honest and efficient government	.477***	.356***	.356***	.265**	.342**
	(.111)	(.113)	(.115)	(.111)	(.151)
Regional dummies	No	Yes	Yes	Yes	Yes
Period dummies	No	No	Yes	Yes	Yes
Sample	All	All	All	All	GDP>10,000
Observations	148	148	148	148	96
Countries	62	62	62	62	36
R squared	.707	.772	.785	.802	.757
Wald Chi squared	360.42	463.91	546.33	613.45	299.75

Note: estimation is with pooled OLS; panel corrected standard errors in parentheses; *** (**) [*] indicates significance at p<.01 (p<.05) [p<.10]. "Average" is the country's mean in life satisfaction, with life satisfaction measured on a 10-point scale.

Table 5. Basic results, alternative ("top three") coding

	1	2	3	4	5
Average memberships	3.336	1.411	2.303	1.399	-4.211
	(3.067)	(2.708)	(3.201)	(2.913)	(3.923)
Social trust	44.110***	41.470***	41.839***	44.855***	41.918***
	(7.707)	(7.305)	(7.528)	(7.324)	(8.495)
Belief in god	31.035***	16.799***	15.715***	17.329***	13.539**
	(4.481)	(4.292)	(4.942)	(4.798)	(5.349)
Divorce rate	-2.646***	-1.300	-1.042	-.747	-.118
	(.921)	(.822)	(.848)	(.769)	(1.101)
Unemployment rate	-.454**	-.489**	-.425**	-.388**	-.502*
	(.196)	(.192)	(.196)	(.183)	(.278)
Log GDP per capita	6.859**	6.148**	5.691*	6.312**	5.972
	(2.664)	(2.904)	(3.125)	(2.929)	(5.294)
Postcommunist		-9.472**	-9.397**	-9.689**	-8.083
		(3.744)	(3.926)	(3.842)	(5.776)
Openness to trade				.061***	.062***
				(.018)	(.020)
Investment price level				.089***	.089***
				(.025)	(.057)
Honest and efficient government	7.894***	5.216**	5.291**	3.062	4.697*
	(2.137)	(2.093)	(2.185)	(2.075)	(2.671)
Regional dummies	No	Yes	Yes	Yes	Yes
Period dummies	No	No	Yes	Yes	Yes
Sample	All	All	All	All	GDP>10,000
Observations	148	148	148	148	96
Countries	62	62	62	62	36
R squared	.645	.735	.742	.769	.754
Wald Chi squared	392.75	536.68	583.06	638.78	333.49

Note: estimation is with pooled OLS; panel corrected standard errors in parentheses; *** (**) [*] indicates significance at p<.01 (p<.05) [p<.10]. "Top three" is the country's population share of those reporting in the highest three categories of life satisfaction, with life satisfaction measured on a 10-point scale.

Table 6. Alternative institutional measures

	Average All	Average GDP>10,000	Top three All	Top three GDP>10,000
Legal quality	.148***	.202***	2.132***	2.947***
	(.043)	(.053)	(.806)	(.928)
Observations	148	96	148	96
R squared	.808	.781	.776	.766
Wald Chi squared	635.86	338.84	674.91	419.01
Gastil index	-.127**	-.293***	-2.735***	-5.215***
	(.051)	(.073)	(.881)	(1.406)
Observations	148	96	148	96
R squared	.803	.791	.781	.784
Wald Chi squared	553.99	364.32	594.11	373.68
Polity IV index	.023	.060***	.668**	1.245***
	(.015)	(.019)	(.275)	(.391)
Observations	148	96	148	96
R squared	.797	.766	.779	.775
Wald Chi squared	545.69	314.51	580.34	323.50
Democratic process	.459***	.817***	7.329***	12.379***
	(.123)	(.122)	(2.231)	(2.685)
Observations	148	96	148	96
R squared	.813	.813	.782	.784
Wald Chi squared	652.68	653.98	680.95	627.65
Political constraints III	.274	1.392***	6.202	26.604***
	(.333)	(.344)	(5.961)	(6.785)
Observations	148	96	148	96
R squared	.793	.779	.768	.781
Wald Chi squared	567.63	334.31	609.31	381.08
Political constraints V	.207	1.267***	2.086	17.515**
	(.279)	(.370)	(4.484)	(6.889)
Observations	148	96	148	96
R squared	.793	.783	.766	.765
Wald Chi squared	572.37	387.86	613.17	428.84
Law and order	.024	.108	-.578	1.255
	(.051)	(.067)	(.984)	(1.257)
Observations	148	96	148	96
R squared	.792	.744	.767	.747
Wald Chi squared	566.47	282.68	601.22	305.07

Note: Unbalanced country panel. Pooled OLS with panel corrected standard errors in parentheses; *** (**) [*] indicates significance at p<.01 (p<.05) [p<.10]. "Average" is the country's mean in life satisfaction, while "Top three" denotes the population share of those reporting in the highest three categories of life satisfaction. Life satisfaction is measured on a 10-point scale.

Table 7. Which indicators are robust?

	Average All	Average GDP>10,000	Top three All	Top three GDP>10,000
Legal quality	6	6	5	5
Gastil index	4	7	5	6
Polity IV index	1	3	5	4
Honest and efficient gov.	4	3	0	0
Democratic process	7	7	7	7
Law and order	0	0	0	0
Political constraints III	0	5	0	6
Political constraints V	0	4	0	1

Note: The numbers count the instances in which the indicator remains significant at $p<.05$ when one other indicator is added at the time to the regressions reported in table 6. Results in parentheses refer to estimates obtained with an autoregressive disturbance. "Average" is the country's mean in life satisfaction, while "Top three" denotes the population share of those reporting in the highest three categories of life satisfaction. Life satisfaction is measured on a 10-point scale. See also table 6.

Table 8. Testing types of institutions

	Average All	Average GDP>10,000	Top three All	Top three GDP>10,000
Economic factor	.204***	.279***	2.468**	3.737***
	(.065)	(.071)	(1.194)	(1.348)
Political factor	.109**	.253***	2.712***	4.956***
	(.053)	(.073)	(.943)	(1.531)
Observations	148	96	148	96
Countries	62	36	62	36
R squared	.815	.814	.787	.794
Wald chi2	622.08	475.49	617.19	554.70

Note: robust standard errors in parentheses; *** (**) [*] indicates significance at p<.01 (p<.05) [p<.10]; all regressions include the baseline variables. "Average" is the country's mean in life satisfaction, while "Top three" denotes the population share of those reporting in the highest three categories of life satisfaction. Life satisfaction is measured on a 10-point scale.

Table A1. Data sources

Variable	Source	Measured as
Life satisfaction, top three	World Values Survey (2009)	Population percentage
Life satisfaction, average		1 (low) to 10 (high)
Average memberships		Population percentage
Social trust		Population percentage
Belief in god		Population percentage
Divorce rate	World Bank (2007)	Share of marriages
Unemployment rate		Share of active labor force
Postcommunist		0 (no) / 1(yes)
Openness to trade	Penn World Tables, Mark 6.2 (Heston et al., 2006)	Share of GDP
Investment price level		Investment price level relative to US investment price level
GDP per capita		ppp adjusted US dollars
Legal quality	The Fraser Institute (Gwartney and Lawson, 2008)	0 (low) to 10 (high)
Gastil index	Freedom House (2008)	1(high) to 7 (low)
Polity IV index	Polity IV (Marshall and Jaggers, 2004)	0 (low) to 10 (high)
Honest and efficient government	Helliwell (2006)	-2.5 to 2.5
Democratic process	Helliwell (2006)	-2.5 to 2.5
Law and order	Henisz (2000)	0 to .74
Polcon III	Henisz (2002)	0 to .89
Polcon V	Henisz (2000)	2 to 6

Table A2. Countries included in the study

Albania	Hungary	*Russia*
Argentina	Iceland	*Serbia*
Australia	*Indonesia*	Singapore
Austria	Ireland	*Slovak Republic*
Belgium	Italy	Slovenia
Brazil	Japan	*South Africa*
Bulgaria	*Jordan*	South Koreah
Canada	*Latvia*	Spain
Chile	*Lithuania*	Sweden
Croatia	Luxembourg	Switzerland
Cyprus	Malta	Taiwan
Czech Republic	*Mexico*	*Thailand*
Denmark	*Moldova*	Trinidad and Tobago
Dominican Republic	*Morocco*	*Turkey*
Egypt	Netherlands	*Ukraine*
El Salvador	New Zealand	United Kingdom
Estonia	Norway	United States
Finland	*Peru*	*Uruguay*
France	*Poland*	*Venezuela*
Germany	Portugal	*Vietnam*
Greece	*Romania*	

Note: countries in italics are those with at least one observation with a GDP per capita above 10,000 USD.

Table A3. Principal components analysis

Variable	Economic factor	Political factor	Uniqueness
Honest and efficient gov.	.836	.136	.267
Democratic process	.787	.319	.257
Legal quality	.657	.008	.455
Gastil index	-.289	-.869	.154
Polity IV	.004	.883	.207
Law and order	.514	.019	.530
Polcon III	.187	.387	.571
Polcon V	.371	.277	.411
Eigenvalue	3.392	1.284	
Variance explained	.491	.407	

Note: component loadings have been rotated.